

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Xuan Zhao Confirmation No.: To Be Assigned
Appl No.: To Be Assigned Group Art Unit: 1615
Filed: Concurrently Herewith Examiner: Fubara, Blessing M.
For: Multi-Arm Block Copolymers as Drug Delivery Vehicles

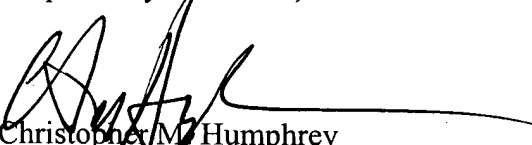
Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97

Attached is a list of documents on form PTO-1449. It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

The foreign patents and non-patent literature documents items were supplied in, or cited by the Office during prosecution of, parent Application No. 10/054,662, filed January 22, 2002. Since the benefit of this application was claimed under 35 U.S.C. 120, no copies need to be furnished in accordance with 37 C.F.R. 1.98(d); however, copies will be furnished on request.

Respectfully submitted,

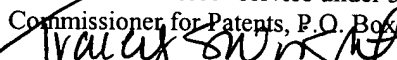

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Tracey S. Wright - RTA 215127v1

Substitute for form 1449/PTO (Revised 04/2003) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)			Complete if Known		
			Application Number	To Be Assigned	
			Filing Date	Concurrently Herewith	
			First Named Inventor	Xuan Zhao	
			Group Art Unit	1615	
Examiner Name	Fubara, Blessing M.				
Sheet	1	of		Attorney Docket Number	034848/274536

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	US-3,101,374	08-20-1963	Patton, Jr.	
	2	US-4,278,555	07-14-1981	Zaweski <i>et al.</i>	
	3	US-4,894,238	01-16-1990	Embry <i>et al.</i>	
	4	US-5,135,751	08-04-1992	Henry <i>et al.</i>	
	5	US-5,306,501	04-26-1994	Viegas <i>et al.</i>	
	6	US-5,429,826	07-04-1995	Nair <i>et al.</i>	
	7	US-5,543,158	08-06-1996	Gref <i>et al.</i>	
	8	US-5,610,241	03-11-1997	Lee <i>et al.</i>	
	9	US-5,618,528	04-08-1997	Cooper <i>et al.</i>	
	10	US-5,672,662	09-30-1997	Harris <i>et al.</i>	
	11	US-5,681,576	10-28-1997	Henry	
	12	US-5,874,500	02-23-1999	Rhee <i>et al.</i>	
	13	US-5,932,462	08-03-1999	Harris <i>et al.</i>	
	14	US-5,965,566	10-12-1999	Greenwald <i>et al.</i>	
	15	US-6,011,042	01-04-2000	Greenwald <i>et al.</i>	
	16	US-6,051,648	04-18-2000	Rhee <i>et al.</i>	
	17	US-6,096,331	08-01-2000	Desai <i>et al.</i>	
	18	US-6,166,130	12-26-2000	Rhee <i>et al.</i>	
	19	US-6,210,717	04-03-2001	Choi <i>et al.</i>	
	20	US-6,258,351 B1	07-10-2001	Harris	
	21	US-6,323,278 B2	11-27-2001	Rhee <i>et al.</i>	
	22	US-6,328,988 B1	12-11-2001	Uhrich	
	23	US-2002/0013408 A1	01-31-2002	Rhee <i>et al.</i>	
	24	US-6,348,558 B1	02-19-2002	Harris <i>et al.</i>	
	25	US-6,362,276 B1	03-26-2002	Harris <i>et al.</i>	

Examiner Signature		Date Considered	
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Examiner Name	Fubara, Blessing M.				
Sheet	2	of		Attorney Docket Number	034848/274536

U. S. PATENT DOCUMENTS					
	26	US-2002/0041898 A1	04-11-2002	Unger <i>et al.</i>	
	27	US-6,436,425 B1	08-20-2002	Henry <i>et al.</i>	
	28	US-6,497,895 B2	12-24-2002	Uhrich	
	29	US-6,515,100 B2	02-04-2003	Harris	
	30	US-2003/0059465 A1	03-27-2003	Unger <i>et al.</i>	
	31	US-2004/0009229 A1	01-15-2004	Unger <i>et al.</i>	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	English Language Translation Attached
	32	EP 0 462 408 A2	12-12-1991	Bayer AG		Yes
	33	WO 92/00748 A1	01-23-1992	Enzon, Inc.		
	34	EP 0 473 268 A2	03-04-1992	Imperial Chemical Industries PLC		
	35	WO 96/03984	02-15-1996	Massachusetts Institute of Technology		
	36	WO 99/29303 A1	06-17-1999	Expression Genetics, Inc.		
	37	WO 99/45964	09-16-1999	Shearwater Polymers, Incorporated		
	38	WO 00/65024 A3	11-02-2000	Rutgers, The State University		
	39	WO 01/49268 A1	07-12-2001	IMARX Therapeutics, Inc.		

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OTHER DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
	40	CHOI <i>et al.</i> , "Star-Shaped Poly(ether-ester) Block Copolymers: Synthesis, Characterization, and Their Physical Properties", <i>Macromolecules</i> , 1998, pp. 8766-8774, Vol. 31, No. 25.	
	41	CHOI, Young Kweon, "Biodegradable Star-Shaped Block Copolymer Hydrogels for Drug Delivery", Dissertation, The University of Utah, Department of Pharmaceutics and Pharmaceutical Chemistry, June 1996, pp. 1-229.	
	42	GAYET, J.-C., and G. FORTIER, "High Water Content BSA-PEG Hydrogel for Controlled Release Device: Evaluation of the Drug Release Properties," <i>Journal of Controlled Release</i> , 1996, pp. 177-184, Vol. 38.	
	43	HARRIS, J. Milton, "Introduction to Biotechnical and Biomedical Applications of Poly(Ethylene Glycol)", <i>Poly(Ethylene Glycol) Chemistry: Biotechnical and Biomedical Applications</i> , 1992, pp. 1-14.	
	44	JAIN <i>et al.</i> , "Controlled release of drugs from injectable in situ formed biodegradable PLGA microspheres: effect of various formulation variables", <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2000, pp. 257-262, Vol. 50, No. 2.	
	45	JEONG <i>et al.</i> , "Adriamycin release from flower-type polymeric micelle based on star-block copolymer composed of poly(γ -benzyl L-glutamate) as the hydrophobic part and poly(ethylene oxide) as the hydrophilic part", <i>International Journal of Pharmaceutics</i> , 1999, pp. 49-58, Vol. 188.	
	46	JEONG <i>et al.</i> , "New biodegradable polymers for injectable drug delivery systems", <i>Journal of Controlled Release</i> , 1999, pp. 109-114, Vol. 62.	
	47	JEONG, B., <i>et al.</i> , "Biodegradable Block Copolymers as Injectable Drug-Delivery Systems," <i>Nature</i> , 1997, pp. 860-862, Vol. 388.	
	48	LEWIS, Richard J., Sr., <i>Hawley's Condensed Chemical Dictionary</i> , 1997, pp. 891- 892 and 1092 - 1093, Thirteenth Edition, John Wiley & Sons, Inc.	
	49	LIU <i>et al.</i> , "Water-soluble dendritic unimolecular micelles: Their potential as drug delivery agents", <i>Journal of Controlled Release</i> , 2000, pp. 121-131, Vol. 65.	
	50	PISKIN <i>et al.</i> , "Novel PDLA/PEG copolymer micelles as drug carriers", <i>J. Biomater. Sci. Polymer Edn</i> , 1995, pp. 359-373, Vol. 7, No. 4.	
	51	PISTEL <i>et al.</i> , "Biodegradable recombinant human erythropoietin loaded microspheres prepared from linear and star-branched block copolymers: Influence of encapsulation technique and polymer composition on particle characteristics", <i>Journal of Controlled Release</i> , 1999, pp. 309-325, Vol. 59.	

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	52	ROUBI, Maureen, "Hyperbranched polymers deliver drugs steadily", <i>Chemical & Engineering News</i> , 1999, p. 63, Vol. 77, No. 03.	
	53	SAWHNEY, A., <i>et al.</i> , "Bioerodible Hydrogels Based on Photopolymerized Poly(ethylene glycol)-co-poly(α -hydroxy acid) Diacrylate Macromers," <i>Macromolecules</i> , 1993, pp. 581-587, Vol. 26.	
	54	SCHMALENBERG <i>et al.</i> , "Cytotoxicity of a Unimolecular Polymeric Micelle and Its Degradation Products", <i>Biomacromolecules</i> , 2001, pp. A-E.	
	55	YASUGI <i>et al.</i> , "Preparation and characterization of polymer micelles from poly(ethylene glycol)-poly(D,L-lactide) block copolymers as potential drug carrier", <i>Journal of Controlled Release</i> , 1999, pp. 89-100, Vol. 62.	
	56	YU <i>et al.</i> , "Polymeric micelles for drug delivery: solubilization and haemolytic activity of amphotericin B", <i>Journal of Controlled Release</i> , 1998, pp. 131-136, Vol. 53.	
	57	ZALIPSKY <i>et al.</i> , "Attachment of Drugs to Polyethylene Glycols", <i>Eur. Polym. J.</i> , 1983, pp. 1177-1183, Vol. 19, No. 12.	
	58	ZALIPSKY, Samuel, "Chemistry of polyethylene glycol conjugates with biologically active molecules", <i>Advanced Drug Reviews</i> , 1995, pp. 157-182, Vol. 16.	

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